

What is claimed is:

1. A compound which is crystalline carvedilol hydrobromide monohydrate.

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2. The compound according to claim 1 having an x-ray diffraction pattern as substantially shown in Figure 1.

10 3. The compound according to claim 2 having characteristic peaks from  $0^\circ$  degrees 2-theta ( $2\theta$ ) to  $35^\circ$  degrees 2-theta ( $2\theta$ ) at about  $6.5 \pm 0.2$  ( $2\theta$ ),  $10.3 \pm 0.2$  ( $2\theta$ ),  $15.7 \pm 0.2$  ( $2\theta$ ),  $16.3 \pm 0.2$  ( $2\theta$ ),  $19.8 \pm 0.2$  ( $2\theta$ ),  $20.1 \pm 0.2$  ( $2\theta$ ),  $21.9 \pm 0.2$  ( $2\theta$ ),  $25.2 \pm 0.2$  ( $2\theta$ ), and  $30.6 \pm 0.2$  ( $2\theta$ ).

15 4. The compound according to claim 1 having an infrared spectrum, which comprises characteristic absorption bands expressed in wave numbers as substantially shown in Figure 6.

20 5. The compound according to claim 1 having a Raman spectrum, which comprises characteristic peaks as shown in Figure 3.

6. A compound which is carvedilol hydrobromide dioxane solvate.

25 7. The compound according to claim 6 having an x-ray diffraction pattern as substantially shown in Figure 78.

30 8. The compound according to claim 7 having characteristic peaks from  $0^\circ$  degrees 2-theta ( $2\theta$ ) to  $35^\circ$  degrees 2-theta ( $2\theta$ ) at about  $7.7 \pm 0.2$  ( $2\theta$ ),  $8.4 \pm 0.2$  ( $2\theta$ ),  $15.6 \pm 0.2$  ( $2\theta$ ),  $17.0 \pm 0.2$  ( $2\theta$ ),  $18.7 \pm 0.2$  ( $2\theta$ ),  $19.5 \pm 0.2$  ( $2\theta$ ),  $21.4 \pm 0.2$  ( $2\theta$ ),  $23.7 \pm 0.2$  ( $2\theta$ ), and  $27.9 \pm 0.2$  ( $2\theta$ ).

9. A compound which is carvedilol hydrobromide 1-pentanol solvate.

10. The compound according to claim 9 having an x-ray diffraction pattern as substantially shown in Figure 79.

11. The compound according to claim 10 having characteristic peaks from  $0^{\circ}$  degrees 2-theta ( $2\theta$ ) to  $35^{\circ}$  degrees 2-theta ( $2\theta$ ) at about  $7.5 \pm 0.2$  ( $2\theta$ ),  $7.8 \pm 0.2$  ( $2\theta$ ),  $15.2 \pm 0.2$  ( $2\theta$ ),  $18.9 \pm 0.2$  ( $2\theta$ ),  $22.1 \pm 0.2$  ( $2\theta$ ), and  $31.4 \pm 0.2$  ( $2\theta$ ).

12. A compound which is carvedilol hydrobromide 2-methyl-1-propanol solvate.

13. The compound according to claim 12 having an x-ray diffraction pattern as substantially shown in Figure 80.

14. The compound according to claim 13 having characteristic peaks from  $0^{\circ}$  degrees 2-theta ( $2\theta$ ) to  $35^{\circ}$  degrees 2-theta ( $2\theta$ ) at about  $7.8 \pm 0.2$  ( $2\theta$ ),  $8.1 \pm 0.2$  ( $2\theta$ ),  $16.3 \pm 0.2$  ( $2\theta$ ),  $18.8 \pm 0.2$  ( $2\theta$ ),  $21.8 \pm 0.2$  ( $2\theta$ ), and  $28.5 \pm 0.2$  ( $2\theta$ ).

15. A compound which is carvedilol hydrobromide trifluoroethanol solvate.

16. The compound according to claim 15 having an x-ray diffraction pattern as substantially shown in Figure 81.

17. The compound according to claim 16 having characteristic peaks from  $0^{\circ}$  degrees 2-theta ( $2\theta$ ) to  $35^{\circ}$  degrees 2-theta ( $2\theta$ ) at about  $7.7 \pm$

0.2 (2 $\theta$ ), 8.4  $\pm$  0.2 (2 $\theta$ ), 15.6  $\pm$  0.2 (2 $\theta$ ), 16.9  $\pm$  0.2 (2 $\theta$ ), 18.9  $\pm$  0.2 (2 $\theta$ ), 21.8  $\pm$  0.2 (2 $\theta$ ), 23.3  $\pm$  0.2 (2 $\theta$ ), 23.8  $\pm$  0.2 (2 $\theta$ ), and 32.7  $\pm$  0.2 (2 $\theta$ ).

5                    18.    A compound which is carvedilol hydrobromide 2-propanol solvate.

                  19.    The compound according to claim 18 having an x-ray diffraction pattern as substantially shown in Figure 82.

10                    20.    The compound according to claim 19 having characteristic peaks from 0° degrees 2-theta (2 $\theta$ ) to 35° degrees 2-theta (2 $\theta$ ) at about 7.9  $\pm$  0.2 (2 $\theta$ ), 8.3  $\pm$  0.2 (2 $\theta$ ), 18.8  $\pm$  0.2 (2 $\theta$ ), 21.7  $\pm$  0.2 (2 $\theta$ ), 23.2  $\pm$  0.2 (2 $\theta$ ), 23.6  $\pm$  0.2 (2 $\theta$ ), and 32.1  $\pm$  0.2 (2 $\theta$ ).

15                    21.    A compound which is carvedilol hydrobromide n-propanol solvate #1.

                  22.    The compound according to claim 21 having an x-ray diffraction pattern as substantially shown in Figure 46.

20                    23.    The compound according to claim 22 having characteristic peaks from 0° degrees 2-theta (2 $\theta$ ) to 35° degrees 2-theta (2 $\theta$ ) at about 7.9  $\pm$  0.2 (2 $\theta$ ), 8.5  $\pm$  0.2 (2 $\theta$ ), 17.0  $\pm$  0.2 (2 $\theta$ ), 18.8  $\pm$  0.2 (2 $\theta$ ), 21.6  $\pm$  0.2 (2 $\theta$ ), 23.1  $\pm$  0.2 (2 $\theta$ ), 23.6  $\pm$  0.2 (2 $\theta$ ), and 21.2  $\pm$  0.2 (2 $\theta$ ).

25                    24.    A compound which is carvedilol hydrobromide n-propanol solvate #2.

30                    25.    The compound according to claim 24 having an x-ray diffraction pattern as substantially shown in Figure 54.

26. The compound according to claim 25 having characteristic peaks from  $0^{\circ}$  degrees 2-theta ( $2\theta$ ) to  $35^{\circ}$  degrees 2-theta ( $2\theta$ ) at about  $8.0 \pm 0.2$  ( $2\theta$ ),  $18.8 \pm 0.2$  ( $2\theta$ ),  $21.6 \pm 0.2$  ( $2\theta$ ),  $23.1 \pm 0.2$  ( $2\theta$ ),  $25.9 \pm 0.2$  ( $2\theta$ ),  $27.2 \pm 0.2$  ( $2\theta$ ),  $30.6 \pm 0.2$  ( $2\theta$ ), and  $32.2 \pm 0.2$  ( $2\theta$ ).

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27. A compound which is carvedilol hydrobromide ethanol solvate.

28. The compound according to claim 27 having an x-ray diffraction pattern as substantially shown in Figure 70.

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29. The compound according to claim 28 having characteristic peaks from  $0^{\circ}$  degrees 2-theta ( $2\theta$ ) to  $35^{\circ}$  degrees 2-theta ( $2\theta$ ) at about  $8.1 \pm 0.2$  ( $2\theta$ ),  $8.6 \pm 0.2$  ( $2\theta$ ),  $13.2 \pm 0.2$  ( $2\theta$ ),  $17.4 \pm 0.2$  ( $2\theta$ ),  $18.6 \pm 0.2$  ( $2\theta$ ),  $21.8 \pm 0.2$  ( $2\theta$ ),  $23.2 \pm 0.2$  ( $2\theta$ ),  $23.7 \pm 0.2$  ( $2\theta$ ), and  $27.4 \pm 0.2$  ( $2\theta$ ).

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30. A compound which is carvedilol hydrobromide anhydrous.

31. The compound according to claim 30 having an x-ray diffraction pattern as substantially shown in Figure 62.

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32. The compound according to claim 31 having characteristic peaks from  $0^{\circ}$  degrees 2-theta ( $2\theta$ ) to  $35^{\circ}$  degrees 2-theta ( $2\theta$ ) at about  $6.6 \pm 0.2$  ( $2\theta$ ),  $16.1 \pm 0.2$  ( $2\theta$ ),  $17.3 \pm 0.2$  ( $2\theta$ ),  $21.2 \pm 0.2$  ( $2\theta$ ),  $22.1 \pm 0.2$  ( $2\theta$ ),  $24.1 \pm 0.2$  ( $2\theta$ ), and  $27.9 \pm 0.2$  ( $2\theta$ ).

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33. The compound according to claim 30 having an infrared spectrum, which comprises characteristic absorption bands expressed in wave numbers as substantially shown in Figure 67.

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34. The compound according to claim 30 having a Raman spectrum, which comprises characteristic peaks as substantially shown in Figure 64.

5 35. A pharmaceutical composition, comprising the compound according to claim 1 and a pharmaceutically acceptable carrier.

36. A pharmaceutical composition, comprising the compound according to claim 30 and a pharmaceutically acceptable carrier.

10 37. A method of treating hypertension, congestive heart failure, or angina, which comprises administering to a subject in need thereof an effective amount of a compound according to claim 1.

15 38. A method of treating hypertension, congestive heart failure, or angina, which comprises administering to a subject in need thereof an effective amount of a compound according to claim 30.

20 39. A method of treating hypertension, congestive heart failure, or angina, which comprises administering to a subject in need thereof an effective amount of a pharmaceutical composition according to claim 35.

25 40. A method of treating hypertension, congestive heart failure, or angina, which comprises administering to a subject in need thereof an effective amount of a pharmaceutical composition according to claim 36.